

Application No. 10/669,580
Amendment filed with RCE

Customer No. 01933

Listing of Claims:

Claims 1-6 (Canceled).

7. (Currently Amended) A logarithmic graph plotting apparatus comprising:

a range setting unit for setting an x-coordinate range for a graph ranging from an arbitrary x-minimum value to an arbitrary x-maximum value, and a y-coordinate range for the graph ranging from an arbitrary y-minimum value to an arbitrary y-maximum value;

a logarithmic axis setting unit for selecting whether to set at least one of x- and y-axes as corresponding logarithmic x- and y-axes;

an x-logarithmic scale number determining unit for ~~when the x-axis is selected to be set as the logarithmic x-axis,~~ determining a number of logarithmic scales for the x-axis, based on a number obtained by calculating a difference between a logarithm of the x-minimum value and a logarithm of the x-maximum value and converting the calculated difference to an integer;

an x-logarithmic scale plotting control unit for controlling plotting of logarithmic scales for the x-coordinate range such that the determined number of logarithmic scales for the x-coordinate range are plotted when the x-axis is selected to be

Application No. 10/669,580
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Customer No. 01933

set as the logarithmic x-axis, and such that no scales are plotted for the x-coordinate range when the x-axis is not selected to be set as the logarithmic x-axis;

25 a y-logarithmic scale number determining unit for ~~when the y-axis is selected to be set as the logarithmic y-axis,~~
determining a number of logarithmic scales for the y-axis, based on a number obtained by calculating a difference between a logarithm of the y-minimum value and a logarithm of the y-maximum value and converting the calculated difference to an integer;

30 a y-logarithmic scale plotting control unit for controlling plotting of logarithmic scales for the y-coordinate range such that the determined number of logarithmic scales for the y-coordinate range are plotted when the y-axis is selected to be set as the logarithmic y-axis, and such that no scales are
35 plotted for the y-coordinate range when the y-axis is not selected to be set as the logarithmic y-axis; and

a logarithmic graph plotting control unit for plotting on a display screen a logarithmic graph corresponding to the plotted logarithmic scales corresponding to the selected at least one of
40 the x- and y-axes when the at least one of the x- and y-axes is selected, and for plotting on the display screen an ordinary graph corresponding to the x- and y-axes when neither of the x- and y-axes is selected to be set as the corresponding logarithmic x- and y-axes.

Application No. 10/669,580
Amendment filed with RCE

Customer No. 01933

8. (Previously Presented) The logarithmic graph plotting apparatus according to claim 7, wherein the range setting unit comprises a unit for displaying on the display screen a range setting image in which the x-minimum value and the x-maximum value of the x-coordinate range and the y-minimum value and the y-maximum value of the y-coordinate range are indicated;

wherein the logarithmic axis setting unit comprises a displaying unit for displaying on the display screen a logarithmic axis setting image including items for selecting whether to set each of the x- and y-axes as the corresponding logarithmic x- and y-axes; and

wherein the range setting image and the logarithmic axis setting image are displayed on the display screen in parallel.

9. (Previously Presented) The logarithmic graph plotting apparatus according to claim 8, further comprising a unit for indicating an error when at least one of the x- and y-axes is selected to be set as the corresponding logarithmic x- and y-axes in the logarithmic axis setting image, and when a value in the at least one of the x- and y-coordinate ranges corresponding to the selected at least one of the x- and y-axes is not positive in the range setting image.

Application No. 10/669,580
Amendment filed with RCE

Customer No. 01933

10. (Previously Presented) The logarithmic graph plotting apparatus according to claim 7, wherein the logarithmic scales comprise a straight line extending from each of the logarithmic scales.

11. (Previously Presented) The logarithmic graph plotting apparatus according to claim 7, wherein the items in the logarithmic axis setting image for selecting whether to set each of the x- and y-axes as the corresponding logarithmic x- and y-axes comprise check boxes.

12. (Currently Amended) A computer-readable recording medium having a logarithmic graph plotting program stored thereon for controlling a computer of a graph plotting apparatus, the program causing the computer to function as:

5 a range setting unit for setting an x-coordinate range for a graph ranging from an arbitrary x-minimum value to an arbitrary x-maximum value, and a y-coordinate range for the graph ranging from an arbitrary y-minimum value to an arbitrary y-maximum value;

10 a logarithmic axis setting unit for selecting whether to set at least one of x- and y-axes as corresponding logarithmic x- and y-axes;

Application No. 10/669,580
Amendment filed with RCE

Customer No. 01933

an x-logarithmic scale number determining unit for ~~when~~
~~the x-axis is selected to be set as the logarithmic x-axis,~~

15 determining a number of logarithmic scales for the x-axis, based
on a number obtained by calculating a difference between a
logarithm of the x-minimum value and a logarithm of the x-maximum
value and converting the calculated difference to an integer;

an x-logarithmic scale plotting control unit for controlling
20 plotting of logarithmic scales for the x-coordinate range such
that the determined number of logarithmic scales for the x-
coordinate range are plotted when the x-axis is selected to be
set as the logarithmic x-axis, and such that no scales are
plotted for the x-coordinate range when the x-axis is not
25 selected to be set as the logarithmic x-axis;

a y-logarithmic scale number determining unit for ~~when the~~
~~y-axis is selected to be set as the logarithmic y-axis,~~
determining a number of logarithmic scales for the y-axis, based
on a number obtained by calculating a difference between a
30 logarithm of the y-minimum value and a logarithm of the y-maximum
value and converting the calculated difference to an integer;

a y-logarithmic scale plotting control unit for controlling
plotting of logarithmic scales for the y-coordinate range such
that the determined number of logarithmic scales for the y-
35 coordinate range are plotted when the y-axis is selected to be
set as the logarithmic y-axis, and such that no scales are

Application No. 10/669,580
Amendment filed with RCE

Customer No. 01933

plotted for the y-coordinate range when the y-axis is not
selected to be set as the logarithmic y-axis; and

a logarithmic graph plotting control unit for plotting on a
40 display screen a logarithmic graph corresponding to the plotted
logarithmic scales corresponding to the selected at least one of
the x- and y-axes when the at least one of the x- and y-axes is
selected, and for plotting on the display screen an ordinary
graph corresponding to the x- and y-axes when neither of the x-
45 and y-axes is selected to be set as the corresponding logarithmic
x- and y-axes.